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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.               | CONFIRMATION NO.       |
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| 10/606,626  | 06/25/2003  | Apurva F. Dalia      | MS1-3729US                        | 5035                   |
| 22801   | 7590        | 02/18/2009           |                                   |                        |
| LEE & HAYES, PLLC<br>601 W. RIVERSIDE AVENUE<br>SUITE 1400<br>SPOKANE, WA 99201 |             |                      | EXAMINER<br>SWEARINGEN, JEFFREY R |                        |
|   |             |                      | ART UNIT<br>2445                  | PAPER NUMBER           |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/606,626

**Applicant(s)**

DALIA ET AL.

**Examiner**

Jeffrey R. Swearingen

**Art Unit**

2445

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-33 is/are pending in the application.
- 4a) Of the above claim(s) 1, 3-10, 12, 13 and 34-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 1, 3-13, and 34-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/20/2008.
2. Applicant failed to adequately traverse statements made in the remarks of 11/29/2007, in which Applicant admitted that the claims had substantially distinct features. Applicant failed to provide evidence stating how the claims with substantially different and distinct features would not create an unreasonable burden upon the examiner. Applicant failed to provide evidence stating how the claims with substantially different and distinct features would not require a burden of a different field of search. Therefore the restriction is made final.

***Response to Arguments***

3. Applicant's arguments with respect to claims 14-33 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

4. Claim 20 is objected to because of the following informalities: claim 20 processes the resource identifier "though a hash function". Appropriate correction is required. For purposes of compact prosecution, claim 20 is treated as saying "through a hash function."

***Claim Rejections - 35 USC § 112***

5. Claims 23, 24, 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. In regard to claims 23 and 31, the claims are directed toward granting access to a storage resource. The first limitation of the claims states that it is determined that no storage resource exists (claim 23) or failing to locate a mapping to a storage resource (claim 31). It is unclear whether Applicant intends to grant access to the storage resource that does not exist and is not mapped, or whether Applicant intends to grant access to the newly created storage resource in a storage partition. It is further unclear if the storage resource which cannot be located is located in the storage partition mentioned further in the claims, or if the resource is intended to be on a separate storage partition. As best interpreted and for purposes of compact prosecution, claims 23 and 31 are treated as associating a resource identifier with a storage partition and providing the location of the storage partition to the front end server.
7. In regard to claims 24 and 32, there is insufficient antecedent basis in claims 14 and 28 for "said new storage resource". It is also unclear what Applicant intends by determining the storage partition in which said new storage resource should be created based upon the language of claims 14 and 28. As best interpreted and for purposes of compact prosecution, claims 24 and 32 are treated as using load balancing to move storage between elements.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 14-19, 22-25, and 28-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Black (US 6,842,784).

10. In regard to claim 14, Black disclosed:

*A computer implemented method of managing access to a storage resource for one of a plurality of network-based applications in a multiple server storage system, the method comprising:*

*obtaining a resource identifier associated with the storage resource from a front end server; column 22, lines 19-32*

*utilizing said resource identifier to locate, in a lookup store of a lookup partitioning service server, a partition of a storage server where said storage resource is located; and column 25, lines 29-44*

*granting access to the storage resource by providing said location of said partition of said storage server to said front end server. Column 26, lines 6-12*

The limitations of claim 28 are directed to a computer readable medium, and are substantially the same as the claim limitations in claim 14.

11. In regard to claim 15, Black disclosed:

*said location of said partition of said storage server is on one of a plurality of storage servers.* Column 16, lines 19-24

12. In regard to claim 16, Black disclosed:

*a plurality of storage partitions, said plurality including a primary storage partition and a redundant storage partition each containing said storage resource.* Column 16, lines 25-44

13. In regard to claim 17, Black disclosed:

*said primary storage partition and said redundant storage partition are each located on separate storage servers of said plurality of storage.* Column 16, lines 25-44

14. In regard to claim 18, Black disclosed:

*if the primary storage partition is unavailable, the storage server location is the redundant storage partition.* Column 17, lines 9-24 - mirror

15. In regard to claim 19, Black disclosed:

*determining which lookup partitioning service server of a plurality of lookup partitioning service servers will provide said looked-up storage server location in response to said resource identifier.* Column 22, lines 11-32, where the ELVID disclosed which storage domain was in use

Claim 29 is substantially the same as claim 19.

16. In regard to claim 22, Black disclosed:

*moving the storage resource from one storage partition to a new storage partition and updating said resource lookup store with said new storage partition.* Column 22, lines 33-57 – the ELVID identifier is the same regardless of where the storage is moved.

Claim 30 is substantially the same as claim 22.

17. In regard to claim 23, Black disclosed:

*granting access to the storage resource comprises:*

*determining that no storage resource exists;* [treated according to rejection under 35 USC 112, 2<sup>nd</sup> paragraph]

*creating a new storage resource in a storage partition;* [treated according to rejection under 35 USC 112, 2<sup>nd</sup> paragraph]

*associating said resource identifier with said storage partition in said resource lookup store; and* column 22, lines 19-32

*providing said location of said storage partition to said front end server.*  
column 25, lines 29-44

Claim 31 is substantially the same as claim 23.

18. In regard to claim 24, Black disclosed:

*calculating a load balancing factor for each storage partition of a plurality of storage partitions and using said load balancing factors to determine the storage partition in which said new storage resource should be created.* Column 21, lines 49-63 disclose the use of load balancing based on frequency of access (calculating a load balancing factor) to determine the best location for a storage volume.

Claim 32 is substantially the same as claim 24.

19. In regard to claim 25, Black disclosed:

*said load balancing factor is based on value selected from the values consisting of: a mapping number, a count of mapping accesses, and a manual weighting value.*

Column 21, line 60 – frequency of access is a count of mapping accesses

Claim 33 is substantially the same as claim 25.

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black in view of Legout et al. (US 2003/0014503).

22. In regard to claims 20 and 21, Black is applied as in claim 19. Black failed to disclose *processing said resource identifier through a hash function to provide a hashed resource identifier associated with a particular lookup partitioning service server or wherein each lookup partitioning service server is associated with a predetermined set of hashed resource identifiers*. Legout disclosed that an authentication server in a distributed computer network may be hijacked, and therefore the identifiers should be hashed to prevent this. [0063]. Legout computes an identifier based on the system connected to [0063] using a cryptographic hash function [0070]. The authentication server knows what domains the content server can access (*each lookup partitioning service server is associated with a predetermined set of hashed resource identifiers*). [0066]. It would have been obvious to one of ordinary skill in the art at the time of



invention to use hashing for resource identifiers in Black as taught in Legout to prevent link hijacking (Legout, [0063]).

23. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Black in view of Yu (US 6,351,775).

24. In regard to claims 26-27, Black is applied as in claim 24. Black failed to disclose adjusting the values used in load balancing to allow specific servers to get more or less traffic. However, Yu disclosed (column 9, line 51 – column 10, line 24) a system where the servers in a load balancing network are given thresholds and a reassignment routing is used to recalculate the assignments to servers so that the loads are evenly balanced. (*adjusting a manual weighting value to increase or decrease the usage of said one of said storage servers*). It would have been obvious to one of ordinary skill in the art at the time of invention to recalculate the load balancing of Black according to the statistical reassignments of Yu in order to provide the best service based on the requests received by each server.

### **Conclusion**

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- |     |               |                 |
|-----|---------------|-----------------|
| 26. | Foster et al. | US 7,444,414    |
| 27. | Livnat        | US 2001/0037379 |
| 28. | Hashimoto     | US 2002/0156887 |
| 29. | Walker et al. | US 6,286,001    |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571)272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Donaghue can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey R. Swearingen  
Examiner  
Art Unit 2445

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